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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/918,829 | 08/01/2001 | Masahiro Uekawa | 2001-1018A | 4417 |
| 7590 | 12/01/2004 | | EXAMINER | |
| Wenderoth, Lind & Pomack, LLP 2033 K Street, N.W. Suite 800 Washington, DC 20006-1021 | | | | DUVERNE, JEAN F |
| | | ART UNIT | | PAPER NUMBER |
| | | | | 2839 |

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|---------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/918,829 | UEKAWA ET AL. |
| Examiner | Art Unit | |
| Jean F. Duverne | 2839 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 06 July 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 17-36 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 17-36 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Although the Examiner strongly believes that element (22) contributes to the alignment process, the examiner has decided withdraw the previous rejections and used different figures wherein the align process is explicitly mentioned. Therefore, a second non-final action has been issued (see below).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17, 19-24, 26, 28 rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332).

Pimpinella's device discloses an optical device an optical device (figs. 5-6) including optical substrate (41, 40), a lens element (20) formed on the substrate, a supporting substrate or coupler (50) having grooved surface (51, 52) with groove and projecting parts formed therein, wherein the optical substrate having the grooves (42-43) formed on the supporting substrate as to align the lens element with the optical element (see col. 4, lines 22-40); the projecting part extending perpendicularly from the surface and having a circular cross section, the groove with the v-shape extending to side fig. 5-6). However, Pimpinella's device fails to place the projecting part on the optical substrate. The projecting parts are placed on the supporting substrate. It would

have been obvious to one having ordinary skill in the art at the time the invention was made place grooves on the substrate, projecting parts on the supporting substrate as to align the lens optical (ultimate goals in both devices: Pimpinella's and applicant's devices), since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse* 86 USPQ 70). It would have been obvious to one having ordinary skill in the art at the time the invention was made place grooves on the substrate, projecting parts on the supporting substrate in order to align the lens optical elements with the optical elements (see col. 4, lines 22-40).

Pimpinella's device discloses the aforementioned limitations, but fails to explicitly disclose the lens element or the projecting part is integrally formed in one piece with the substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have lens element or the projecting part is integrally formed in one piece with the substrate instead of being separate, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stone Works*, 150 U.S. 164 (1983).

Claims 18, 25, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332) in view of Tabuchi (US patent 5,481,629).

In regard to claim 18, Pimpinella's device discloses the aforementioned limitations, but fails to explicitly disclose the use of the photolithography. Tabuchi's device discloses the substrate with the grooves and fiber using the photolithography

(see col. 4). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the photolithography features such as the one taught in Tabuchi's structure for improving the projection features in Pimpinella's device.

In regard to claims 25,31, Pimpinella's device discloses the aforementioned limitations, but fails to explicitly disclose the etching process with anisotropic enchant using silicon or other similar material commonly used, and the silicon substrate formed in a one piece unit. Tabuchi's device discloses the etching process with anisotropic enchant using silicon (see col. 4). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the etching process with anisotropic enchant such as the one taught in Tabuchi's structure to meet system design and requirement.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332) in view of Tabuchi (US patent 5,481,629) as applied to claims 18, 25, 31 above, and further in view of Ham (US patent US005543255A) .

Pimpinella's and Tabuchi's structures discloses the aforementioned, but fails to explicitly disclose the use of the quartz substrate. Ham's device disclose the use of the quartz substrate (11). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the quartz substrate such as the one taught in Ham's structure to meet system design and requirement.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pimpinella (US patent 5,257,332) in view of Tabuchi (US patent 5,481,629) as applied to claims 18, 25, 31 above, and further in view of Matsumura et al (US patent 5,625,493).

Pimpinella's and Tabuchi's structures discloses the aforementioned, but fails to explicitly disclose the use of the lens comprising hologram. Matsumura's device discloses the use of the lens comprising hologram. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the lens comprising hologram such as the one disclose in Matsumura's system for improving the diffracting system in Pimpinella's device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean F. Duverne whose telephone number is (571) 272-2091. The examiner can normally be reached on 9:00-7:30, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TC Patel can be reached on (571) 272-2098. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

J.F. Duverne
11/29/204



Jean Frantz Duverne
Primary Examiner
Art Unit 2839